



From the INTERNATIONAL BUREAU

PCT**NOTIFICATION CONCERNING
TRANSMITTAL OF COPY OF INTERNATIONAL
PRELIMINARY REPORT ON PATENTABILITY
(CHAPTER I OF THE PATENT COOPERATION
TREATY)**

(PCT Rule 44bis.1(c))

To:

SHIN, Dong In
304, DUKAM Building, 1457-2,
Seocho3-dong, Seocho-gu
Seoul 137-867
RÉPUBLIQUE DE CORÉE

Date of mailing (<i>day/month/year</i>) 15 June 2006 (15.06.2006)		
Applicant's or agent's file reference cu_ext041203		IMPORTANT NOTICE
International application No. PCT/KR2004/003168	International filing date (<i>day/month/year</i>) 03 December 2004 (03.12.2004)	
		Priority date (<i>day/month/year</i>) 03 December 2003 (03.12.2003)
Applicant HELIXIR CO., LTD. et al		

The International Bureau transmits herewith a copy of the international preliminary report on patentability (Chapter I of the Patent Cooperation Treaty)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Philippe Becamel

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 70 90

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference cu_ext041203	FOR FURTHER ACTION		See item 4 below
International application No. PCT/KR2004/003168	International filing date (<i>day/month/year</i>) 03 December 2004 (03.12.2004)	Priority date (<i>day/month/year</i>) 03 December 2003 (03.12.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant HELIXIR CO., LTD.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | | |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I | Basis of the report |
| <input type="checkbox"/> | Box No. II | Priority |
| <input type="checkbox"/> | Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input checked="" type="checkbox"/> | Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> | Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> | Box No. VI | Certain documents cited |
| <input checked="" type="checkbox"/> | Box No. VII | Certain defects in the international application |
| <input checked="" type="checkbox"/> | Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 740 14 35	Date of issuance of this report 07 June 2006 (07.06.2006)
	Authorized officer Philippe Becamel Telephone No. +41 22 338 70 90

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

SHIN, Dong In

304, DUKAM Building, 1457-2, Seocho3-dong, Seocho-gu
Seoul 137-867 Republic of Korea

PCT

REC'D 22 MAR 2005

WIPO

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 15 MARCH 2005 (15.03.2005)

Applicant's or agent's file reference
cu_ext041203

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/003168

International filing date (day/month/year)

03 DECEMBER 2004 (03.12.2004)

Priority date(day/month/year)

03 DECEMBER 2003 (03.12.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 A61K 35/78

Applicant

PANGENOMICS CO., LTD. et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

YEO, Ho Sup

Telephone No. 82-42-481-5627



WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2004/003168

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☒ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☒ in written format
☒ in computer readable form

c. time of filing/furnishing

- ☒ contained in the international application as filed.
☒ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003168

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
- ☐ paid additional fees
 - ☐ paid additional fees under protest
 - ☐ not paid additional fees
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☐ not complied with for the following reasons:

Claims 2-11 concern a pharmaceutical composition, and claims 12-13 concern health care food. Although claims 2-11 and 12-13 are relevant to the composition comprising the same active ingredient, there is no technical relationship between a pharmaceutical composition and a health care food.

Hence, the application contains the following separate groups of inventions not so linked as to form a single general inventive concept (PCT Rule 13.1) :

- i) Claims 1-11
- ii) Claims 1, 12-13

4. Consequently, this opinion has been established in respect of the following parts of the international application :

- ☒ all parts.
- ☐ the parts relating to claims Nos. _____

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003168

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-13	YES
	Claims		NO
Inventive step (IS)	Claims	1, 9-10	YES
	Claims	2-8, 11-13	NO
Industrial applicability (IA)	Claims	1-13	YES
	Claims		NO

2. Citations and explanations :

The present invention relates to an extract of Cucurbitaceae family plant or the purified extract isolated therefrom having anti-adipogenic and anti-obesity activity, and a composition comprising the same as an active ingredient for the prevention and/or treatment of obesity and adipogenesis-involved diseases.

The following documents have been considered for the purpose of this Written Opinion :

D1 = Korean J. Medicinal Crop Sci. 9(4), 280-283 (2001)

D2 = CN 1092266 A (21. 09. 1994)

D3 = CN 1079619 A (22. 12. 1993)

D4 = CN 1328778 A (02. 01. 2002)

1) Novelty & Inventive step

Claims 2-8 and 11-13 relate to a pharmaceutical composition and health care food for the prevention and/or treatment of obesity and adipogenesis-involved diseases, comprising an extract of plant belonged to Cucurbitaceae family as an active ingredient.

D1 describes the anti-hyperlipidemic activity of the water extract of autumn pumpkin (*Cucurbita maxima* Duchesne) belonged to Cucurbitaceae family.

(Continued on Supplemental Sheet.)

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003168

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

Claim 1 is contrary to Rule 6.2(a) because it relies on unnecessary reference to the drawing.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003168

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

- 1) In claim 1, "as shown Fig. 12" should be replaced by "as shown Fig. 18".
- 2) The applicants have not supplied data showing that the hexane soluble extracts of Cucurbitaceae family plants as well as the extracts of gourd and cucumber in the present invention are useful for treating and preventing obesity and adipogenesis-involved diseases. Therefore, the subject-matter of claims 3 and 9 is not fairly based on the disclosure of the description including the examples.
- 3) Claims 6, 7 and 12 do not satisfy the requirements of clarity of Article 6 PCT because the obscure expressions such as "and the like" or "non-polar solvent" render the determination of the exact scope of the claims difficult.

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003168

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of :

Box V.

D2-D4 disclose the composition for the prevention and/or treatment of obesity and diabetes mellitus, comprising pumpkin as an active ingredient.

Even though D1-D4 are relevant to the present invention, none of them describe the anti-adipogenic activity of pumpkin belonged to Cucurbitaceae family.

Therefore, the subject-matter of claims 2-8 and 11-13 can be regarded as novel (PCT Article 33(2)).

However, the cited documents D1-D4 already disclose the anti-obesity and anti-hyperlipidemic activity of pumpkin belonged to Cucurbitaceae family.

Therefore, the present invention according to claims 2-8 and 11-13 would be obvious from the teachings of citations D1-D4 to a person skilled in the art. Consequently, the subject-matter of claims 2-8 and 11-13 is not considered to fulfil the requirement of inventive step (PCT Article 33(3)).

Claims 1, 9 and 10 relate to the purified extract isolated from Cucurbitaceae family plant which exhibits the anti-adipogenic and anti-obesity activity, and the pharmaceutical composition comprising the non-polar solvent soluble extract of Cucurbitaceae family plant as an active ingredient for preventing and treating obesity and adipogenesis-involved diseases.

The cited documents D1-D4 do not disclose a non-polar solvent soluble extract of Cucurbitaceae family plant or the purified extract isolated therefrom having anti-adipogenic and anti-obesity activity.

Moreover, the applicants have supplied data showing that the non-polar solvent soluble extract of pumpkin and the purified extract isolated therefrom have the improved pharmacological effects, compared with the water extract of pumpkin.

Consequently, the subject-matter of claims 1, 9 and 10 is novel and is considered to involve an inventive step (PCT Article 33(2)-(3)).

2) Industrial applicability

Claims 1-13 meet the criteria set out in PCT Article 33(4).